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WE CLAIM:

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1. A structure comprising a layer of a polymer formed by the polymerization reaction with a single site catalyst.
2. The article of claim 1 wherein said structure is a film.
3. The film according to claim 2 wherein said layer comprises an ethylene polymer formed by the polymerization reaction with a single site catalyst.
4. The film according to claim 2 wherein said layer comprises a propylene polymer formed by the polymerization reaction with a single site catalyst.
5. The film according to claim 2 wherein said layer comprises a vinylidene chloride copolymer formed by the polymerization reaction with a single site catalyst.
6. The film according to claim 2 wherein said layer comprises a polystyrene formed by the polymerization reaction with a single site catalyst.
7. The film of claim 3 where said polymer is a copolymer of ethylene.
8. The film of claim 7 where said polymer is a copolymer of ethylene and a C<sub>3</sub>-C<sub>20</sub> alpha olefin.
9. The film according to claims 1-8 wherein said single site catalyst is a metallocene.
10. The film according to claim 8 wherein said alpha olefin is butene-1.
11. The film according to claim 8 wherein said alpha olefin is hexene-1.
12. The film according to claim 8 wherein said alpha olefin

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is 4-methyl pentene-1.

13. The film according to claim 8 wherein said alpha olefin is octene-1.
14. The film according to claim 8 wherein said polymeric layer is a blend of said copolymer of ethylene and an alpha olefin with a polyolefin.
15. The film according to claim 14 wherein said polyolefin is a low density polyethylene.
16. The film according to claim 14 wherein said polyolefin is a linear low density polyethylene.
17. The film according to claim 14 wherein said polyolefin is an ethylene vinyl acetate.
18. The film according to claim 14 wherein said polyolefin is a polymer of ethylene and an alpha olefin formed by the polymerization reaction with a single site catalyst.
19. The film according to claim 7-8 and 10-18 wherein said film is molecularly oriented.
20. The film according to claims 7-8 and 10-18 wherein said film is biaxially oriented.
21. The film according to claim 7-8 and 10-18 wherein said film is cross-linked.
22. The film according to claims 7-8 and 10-18 wherein said film is irradiated.
23. The film according to claims 7-8, and 10-18 further comprising a barrier layer.
24. The film according to claim 23 wherein said barrier layer is a copolymer of vinylidene chloride.

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25. The film according to claim 23 wherein said barrier layer is ethylene vinyl alcohol.

26. The film according to claim 24 wherein said vinylidene chloride copolymer is a copolymer of vinylidene chloride and methyl acrylate.

27. A bag made from the film of claims 2-8, 10-18.

28. The article of claim 1 wherein said structure is a collapsible dispensing tube.

29. The tube according to claim 28 where said layer comprises an ethylene polymer formed by a polymerization reaction with a single site catalyst.

30. The tube according to claim 29 wherein said ethylene polymer is a copolymer of ethylene.

31. The tube according to claim 30 wherein said polymer is a copolymer of ethylene and C<sub>3</sub>-C<sub>20</sub> alpha olefin.

32. The tube according to claim 31 wherein said alpha olefin is octene-1.

33. The article of claim 1 where said structure is a pouch.

34. The article of claim 1 wherein said structure is a container.

35. A structure comprising a layer of polymer formed by the polymerization reaction with a metallocene catalyst system.

36. The article of claim 35 wherein said structure is a film.

37. The film according to claim 36 wherein said layer comprises an ethylene polymer formed by the

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~~polymerization reaction with a metallocene catalyst system.~~

38. The film according to claim 36 wherein said layer comprises a propylene polymer formed by the polymerization reaction with a metallocene catalyst system.

39. The film according to claim 36 wherein said layer comprises vinylidene chloride copolymer formed by the polymerization reaction with a metallocene catalyst system.

40. The film according to claim 36 wherein said layer comprises a polystyrene formed by the polymerization reaction with a metallocene catalyst system.

41. The film of claim 37 where said polymer is a copolymer of ethylene.

42. The film of claim 41 where said polymer is a copolymer of ethylene and a C<sub>3</sub>-C<sub>20</sub> alpha olefin.

43. The film according to claim 42 wherein said alpha olefin is butene-1.

44. The film according to claim 42 wherein said alpha olefin is hexene-1.

45. The film according to claim 42 wherein said alpha olefin is 4-methyl pentene-1.

46. The film according to claim 42 wherein said alpha olefin is octene-1.

47. The film according to claim 42 wherein said polymeric

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cont'd*

layer is a blend of said copolymer of ethylene and an alpha olefin with a polyolefin.

48. The film according to claim 47 wherein said polyolefin is a low density polyethylene.
49. The film according to claim 47 wherein said polyolefin is a linear low density polyethylene.
50. The film according to claim 47 wherein said polyolefin is an ethylene vinyl acetate.
51. The film according to claim 47 wherein said polyolefin is a polymer of ethylene and an alpha olefin formed by the polymerization reaction with a metallocene catalyst system.
52. The film according to claim 40-41 and 42-51 wherein said film is molecularly oriented.
53. The film according to claims 40-41 and 42-51 wherein said film is biaxially oriented.
54. The film according to 40-41 and 42-51 wherein said film is cross-linked.
55. The film according to claim 40-41 and 42-51 wherein said film is irradiated.
56. The film according to claims 40-41 and 42-51 further comprising a barrier layer.
57. The film according to claim 56 wherein said barrier layer is a copolymer of vinylidene chloride.
58. The film according to claim 56 wherein said barrier layer is ethylene vinyl alcohol.
59. The film according to claim 57 wherein said vinylidene

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chloride copolymer is a copolymer of vinylidene chloride and methyl acrylate.

60. A bag made from the film of claims 35-53.
61. The article of claim 35 wherein said structure is a collapsible dispensing tube.
62. The tube according to claim 61 where said layer comprises an ethylene polymer formed by a polymerization reaction with a metallocene catalyst system.
63. The tube according to claim 62 wherein said ethylene polymer is a copolymer of ethylene.
64. The tube according to claim 63 wherein said polymer is a copolymer of ethylene and C<sub>3</sub>-C<sub>20</sub> alpha olefin.
65. The tube according to claim 64 wherein said alpha olefin is octene-1.
66. The article of claim 35 where said structure is a pouch.
67. The article of claim 35 wherein said structure is a container.
68. The article of claim 1 wherein said layer comprises an amide polymer formed by the polymerization reaction with a single site catalyst.
69. The article of claim 35 wherein said layer comprises an amide polymer formed by the polymerization reaction with a metallocene catalyst system.
70. The article of claims 68 or 69 wherein said amide is a nylon.
71. The film according to claim 2 further comprising a layer of HDPE on said layer of a polymer formed by the

polymerization reaction with a single site catalyst.

- 72. The film according to claim 71 where said polymer is a copolymer of ethylene and an alpha olefin.
- 73. The film according to claim 72 wherein said alpha olefin is hexene-1.
- 74. The film according to claim 72 wherein said alpha olefin is octene-1.
- 75. The film according to claim 73 or 74 wherein said polymer layer further includes a polybutylene.
- 76. The film according to claim 2 further comprising a layer of polyethylene terephthalate (PET) coated with a polyvinylidene chloride copolymer and an adhesive layer adhering said PET layer with said polymer layer.
- 77. The film according to claim 76 wherein said adhesive is low density polyethylene.
- 78. The film according to claim 76 wherein said film is formed by adhesive lamination.
- 79. The film according to claim 77 wherein said film is formed by extrusion lamination.
- 80. The film according to claim 2 wherein said film further comprises a second layer of an adhesive, a third or core layer of ethylene vinyl alcohol, a fourth layer of an adhesive and a fifth layer of nylon.
- 81. The film of claim 80 formed by means of the tubular water quench process.
- 82. The film according to claim 75 wherein said polymer layer further includes ethylene vinyl acetate.

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83. A process for forming a structure comprising the steps  
of providing a layer of a polymer formed by the  
polymerization reaction with a single site catalyst.

84. The process according to claim 83 wherein said structure  
is a film.

85. The process according to claim 84 wherein said film  
comprises a layer of an ethylene polymer formed by the  
polymerization reaction with a single site catalyst.

86. The process according to claim 84 wherein said film  
comprises a layer of an ethylene polymer formed by the  
polymerization reaction with a metallocene catalyst  
system.

87. The process according to claims 85 or 86 wherein said  
film is molecularly oriented.

88. The process according to claim 87 wherein said film is  
biaxially oriented.

89. The process according to claim 88 wherein said film is  
irradiated.

90. The process according to claim 87 wherein said polymer  
is a copolymer of ethylene and an alpha olefin.

91. The film according to claim 24 wherein said film is  
~~biasally oriented and irradiated.~~

92. The film according to claim 25 wherein said film is  
~~biasally oriented and irradiated.~~

93. The film according to claim 26 wherein said film is  
~~biasally oriented and irradiated.~~

94. The film according to claim 57 wherein said film is

biaxally oriented and irradiated.

95. The film according to claim 58 wherein said film is biaxally oriented and irradiated.

96. The film according to claim 59 wherein said film is biaxally oriented and irradiated.

